

DIAGNOSES OF FLOWERING PLANTS, CHIEFLY FROM THE SOUTHWESTERN UNITED STATES AND MEXICO¹

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The present paper is the result of a study of several collections of plants from the southwestern United States and Mexico, especially the relatively large series of specimens secured by Mr. Harley P. Chandler at Rio Hondo, Texas, and by Mr. Charles Russell Orcutt along the Texas-Mexican boundary and in various parts of Mexico. These collections have been received at the Missouri Botanical Garden for identification and incidental to the work thereto the following plants seem to the writers to be worthy of record and characterization.

Anthericum (Hesperanthes) Chandleri Greenman & Thompson, sp. nov.

Fibræ radicales carnosæ apice clavatæ, collo radicis parce fibroso; foliis plurimis 12–15 gramoideis planis lanceolato-linearibus sensim attenuatis acutis 3.5–4.5 dm. longis 7–10 mm. latis circiter 24-nerviis cum venis transversis conjunctis utrinque glabris integerrimis; scapo 1 m. alto tereti glabro bracteato, bracteis plus minusve foliiformibus sursum gradatim reductis; inflorescentiis paniculatis usque ad 3.5 dm. longis glabris, racemo terminali 2–2.5 dm. longo, racemis lateralibus 1–1.5 dm. longis, bracteis triangulari-acuminatis vel lanceolato-attenuatis sub-scariosis 3–20 mm. longis; floribus 2–4 in axillis bractearum; pedicellis 10–12 mm. longis infra medium articulatis; perianthio pallido-flavo vel stramineo, laciniis oblongo-lanceolatis trinerviis circiter 1 cm. longis; staminibus perianthio duplo brevioribus, filamentis muricatis; stylo 8 mm. longo glabro; capsula matura ignota.

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Specimen examined:

Texas: vicinity of Rio Hondo, Cameron County, September, 1913, *Harley P. Chandler*, 7059 (Mo. Bot. Gard. Herb.), TYPE.

This species belongs to the subgenus *Hesperanthes* according to Baker's treatment of this group (Jour. Linn. Soc. Bot. 15: 253-363. 1876); it is apparently most nearly related to *A. stenocarpum* Baker, a co-type of which is in the herbarium of the Missouri Botanical Garden, from which it is readily distinguished by the broader leaves, entire leaf-margins, the presence of anastomosing cross-veins, and by the leafy scape and yellow flowers.

***Zephyranthes chrysanthia* Greenman & Thompson, sp. nov.**

Bulbus subglobosus 2-2.5 cm. diametro tunicis brunneonigrescentibus vestitus, collo 3-5 cm. longo 6-8 mm. diametro; foliis 2-4 sub anthesi evolutis linearibus 2.5-4.5 dm. longis 2-3 mm. latis glabris; scapis 2-3 dm. altis glabris; spatha membranacea 2.5-3.5 cm. longa inferne tubulosa, tubo 1-1.5 cm. longo, lobo unilaterali lanceolato 1.5-2 cm. longo; pedicellis 2.5-3.5 cm. longis gracilibus; perianthio infundibuliformi 3-3.5 cm. longo flavo 6-lobato, tubo cylindraceo circiter 5 mm. longo, lobis oblanceolatis 3-3.2 cm. longis 5-12 mm. latis acutis staminibus ad apices tubi perianthii insertis segmentis perianthii duplo brevioribus; stylo brevitrilobato staminibus subæquantibus; capsula depresso-globosa 10-12 mm. longitudine et diametro, seminibus numerosis irregulariter compressis 5-6 mm. longis 2-5 mm. latis atratis et saepe nitidis.

Specimen examined:

Texas: Rio Hondo, Cameron County, September, 1913, *Harley P. Chandler*, 7056 (Mo. Bot. Gard. Herb.), TYPE.

The species here characterized is allied to *Z. Eggersiana* Urb., particularly in the size and color of the flowers, but differs in having more numerous and broader leaves, shorter perianth-tube and longer spathes.

***Sisyrinchium angustissimum* (Rob. & Greenm.) Greenman & Thompson, comb. nov.** Plate 24.

S. alatum Hook. var.? *angustissimum* Rob. & Greenm. Am. Jour. Sci. 50: 166. 1895.

Radices carnosso-fibrosi fasciculati; caulis erectis strictis vel

subflexuosis 2.5–9 dm. altis multo-ramosis angustissime ancipit-alatis foliosis glabris vel obscure hirtello-puberulentis basi reliquiis brunneis fibrosis squamarum et foliorum primorum obtecto; foliis radicalibus linearibus gramineis usque ad 4.5 dm. longis 1–4 (rarius 6) mm. latis crebrenerviis glabris vel marginibus hirtellis, eis caulinis conformibus sed sursum gradatim reductis; spatha diphylla, bracteis foliiformibus 1.5–2 cm. longis glabris marginibus plus minusve purpascentibus, pedicellis 2–4 ex eadem spatha 1.5–2.7 cm. longis gracilibus glabris; perian-thio profunde 6-partito verisimiliter flavo, lobis ovato-ellipticis acutis vel emarginatis et submucronatis 5–7-nerviis; ovario oblongo-ovato juventate saepe pubescenti glabrato; capsula matura oblonga 5–10 mm. longa 4–6 mm. diametro glabra, seminibus subglobosis circiter 1.5 mm. diametro in sicco nigres-centi.

Specimens examined:

Mexico: State of Oaxaca, Sierra de San Felipe, altitude 2895 m., 22 June and 29 August, 1894, C. G. Pringle, 4703 (Mo. Bot. Gard. Herb.), co-TYPE; Sierra de San Felipe, altitude 3048 m., August–September, 1894, Charles L. Smith, 758 (Mo. Bot. Gard. Herb.). State of Morelos, lava beds above Cuernavaca, altitude 2590 m., 19 November, 1902, C. G. Pringle, 11191 (Mo. Bot. Gard. Herb.). State of Puebla, vicinity of San Luis Tultitlanapa, near Oaxaca, June, 1908, C. A. Purpus, 3356, 3357 (Mo. Bot. Gard. Herb.).

After a careful reëxamination of the original material on which this variety was based, particularly in the light of additional specimens from subsequent collections, it seems undesirable to retain the plant as a variety of *S. alatum* Hook. Mr. Hooker's species was founded on specimens collected in Demerara, British Guiana, by Dr. Hancock; and specimens secured by Mr. Gardner in the Organ Mountains of Brazil and by Tweedie on the marshes of the La Plata River were considered conspecific. While the writers have not seen any of these specimens, yet from the original description and the illustration accompanying it that species is interpreted as having a broadly winged stem, short and relatively broad ensiform leaves, and broad spathes. These characters can not be applied properly

to the Mexican plant in question. It seems advisable, therefore, to regard the south Mexican plant as a distinct species which may be further characterized as above.

OECOPETALUM Greenman & Thompson, gen. nov. *Icacinaceæ*

Calyx 5-lobus. Petala 5 hypogyna valvata intus costata, margine et apice inflexa. Stamina 5 hypogyna petalis alterna et iis basi cohærentia, filamentis dilatis glabris apice contractis; antheræ erectæ lanceolatæ basi sagittatæ connectivo latiusculo; thecæ lateralæ remotæ et in cavitatibus petalorum receptæ. Discus obsoletus. Ovarium uniloculare, stylus erectus conicus, stigma terminale. Ovulum 1 pendulum. Fructus ignotus.—Frutices vel arbores. Folia alterna coriacea integerrima. Flores cymis brevibus axillaribus dispositi.

O. mexicanum Greenman & Thompson, sp. nov. Plate 25.

Frutex (?) vel arbor (?); ramis cortice griseo tectis; ramulis juventate sericeo-pubescentibus mox glabratis; foliis alternis petiolatis elliptico-lanceolatis 1–2.5 dm. longis 3.5–10 cm. latis brevi-acuminatis obtusis integerrimis utrinque glabris vel praesertim in nerviis sparsissime adpresso-puberulentis subtus pallidioribus basi sensim angustatis acutis, petiolis 7–15 mm. longis supra canaliculatis; inflorescentiis in axillariis superioribus cymosis plus minusve adpresso-sordido-pubescentibus, pedunculo usque ad 2 cm. longo; floribus cum pedicello articulatis et caducis; calyce griseo-tomentoso parvo circiter 2 mm. alto 5-lobato, lobis ovatis obtusis 1 mm. longis; petalo 5 oblongo-lanceolato 8 mm. longo 2 mm. lato verisimiliter albo utrinque glabro intus longitudinaliter insigniter unicostato; ovario et stylo glabro; fructu et seminibus ignotis.

Specimen examined:

Mexico: State of Vera Cruz, Sierra Madre near Miscantla,

August, 1912, C. A. Purpus, 6159 (Mo. Bot. Gard. Herb.)

TYPE.

Specimens of the plant here described were submitted to the Missouri Botanical Garden for determination by Mr. T. S. Brandegee who suggested its probable relationship with *Mappia*. After a careful study of the material at hand it seems unmistakably to belong to the *Icacinaceæ*, but until the fruit is known its exact position in the family must remain doubtful.

In habit and in the structure of the flower it possesses certain characters in common with *Mappia*, *Kummeria* and *Poraqueiba*, but in a combination of the floral characters, particularly in the free or merely coherent glabrous and strongly ribbed petals, the broad smooth filaments, elongated anthers, which in cross section are distinctly x-shaped, and in the single suspended ovule the plant in question differs from the genera above mentioned. Generic rank is therefore given to it and we propose the name **Oecopetalum**, from *οἶκος* house and *πέταλον* petal, in reference to the little recesses or pockets formed by the adjacent petals in which the anthers rest.

Stemodia linearifolia (Morong) Greenman & Thompson, comb. nov.

Stemodiaca linearifolia Morong, Ann. N. Y. Acad. Sci. 7: 183. 1893.

Stemodia tomentosa (Mill.) Greenman & Thompson, comb. nov.

Erinus tomentosus Mill. Dict. 1768. [8th ed.]—*Herpestes tomentosa* Schlecht. & Cham. Linnæa 5: 106. 1830.—*Stemodia lanata* Ruiz & Pav. in DC. Prodr. 10: 383. 1846; Hemsl. Biol. Cent.-Am. Bot. 2: 450. 1882.—*Stemodiaca tomentosa* O. Kuntze, Rev. Gen. 2: 466. 1891.

Siphonoglossa Greggii Greenman & Thompson, sp. nov.

Suffruticosa; caulis erectis vel adscendentibus 0.5–2 dm. longis subcylindratis et saepe quadrisulcatis pubescentibus in lineis decussatis cum pilis reflexis; foliis oppositis brevipetiolatis lanceolatis vel obovatis 0.5–2.5 cm. longis 3–7 mm. latis acutis vel obtusis vel rotundatis integris basi in petiolum gradatim angustatis supra glabris subtus paulo pallidioribus juventate secundum nervos venasque adpresso-puberulentis; floribus in axillis supernis solitariis sessilibusque, bracteis subspathulatis; calyce profunde 5-partito 4 mm. longo, laciniis linear-lanceolatis glabris; corolla 1.5–2 cm. longa bilabiata, labio anteriore horizontaliter patenti trilobulato, labio posteriore suberecto emarginato, tubo gracili 9–14 mm. longo extus pubescenti; ovario et stylo glabro; capsula circiter 7 mm. longa glabra, seminibus suborbicularibus compressis verrucosis circiter 2 mm. diametro.

Specimens examined:

Mexico: State of Tamaulipas, Matamoras, 7 June, 1847, Dr. J.

Gregg, 915 (Mo. Bot. Gard. Herb.), TYPE; Cervallo, 29 May, 1847, *Dr. J. Gregg*, 845 (Mo. Bot. Gard. Herb.).

Texas: Rio Hondo, Cameron County, September, 1913, *Harley P. Chandler*, 7081 (Mo. Bot. Gard. Herb.).

The species here proposed is nearly related to *S. Pilosella* Torr. from which it is distinguished by the pubescence of the stem, namely reflexed hairs disposed in decussating lines, somewhat narrower leaves, and uniformly shorter fruit.

***Siphonoglossa Pilosella* Torr.** Bot. Mex. Bound. 124. 1859.

This species is well represented in the herbarium of the Missouri Botanical Garden by a suite of more than thirty specimens. To it should be referred one of Lindheimer's Texas plants, namely number 1065, collected in 1851, which by clerical error was distributed as "*Ruellia Parryi* Gray."

***Randia Gaumeri* Greenman & Thompson, sp. nov.**

Frutex ramosus; caule ramisque cortice griseo glabro tectis; spinis axillaribus usque ad 1.5 cm. longis divaricatis; foliis obovatis 0.5–1.5 cm. longis apice plerumque rotundatis integris basi in petiolum marginatum contractis utrinque glabris vel supra in nervis ad basin puberulentis; floribus axillaribus sessilibus; calyce toto 1–1.5 mm. longo 4-lobato glabro; lobis triangularibus acutis ciliatis; corolla hypocaterimorpha parva 4-lobata, tubo cylindraceo circiter 2.5 mm. longo extrinsecus glabro, lobis contortis ovatis tubo subaequantibus; antheris ad faucem corollæ sessilibus exsertis; ovario biloculari; bacca ignota.

Specimen examined:

Mexico: State of Yucatan, at Izamal, coll. of 1895, *Dr. Geo. F. Gaumer*, 589 (Mo. Bot. Gard. Herb.), TYPE.

The divaricately spreading axillary spines, relatively small obovate leaves, and the minute flowers amply distinguish this species from all others of the genus. It is with pleasure that the authors dedicate this new species to Dr. Gaumer, who has done so much to further our knowledge of the flora of Yucatan.

***Randia Purpusii* Greenman & Thompson, sp. nov.**

Verisimiliter frutex; ramis ramulisque cortice brunneo vel griseo tectis; spinis ad apices ramorum plerumque quaternis vel binis, vel rarius nullis, 3–6 mm. longis; foliis lanceolatis vel obovato-lanceolatis 1.5–5.5 cm. longis 0.8–2 cm. latis obtusis

vel acutis integris basi in petiolum marginatum gradatim angustatis supra hirsutis subtus paulo pallidioribus et subtomentosis; stipulis triangulari-ovatis utrinque pubescentibus; floribus sessilibus axillaribus terminalibus; calyce toto 6–7 mm. longo 4-lobato, tubo 1.5 mm. longo sericeo, lobis linearibus vel anguste spathulatis 3–3.5 mm. longis patentibus parce pubescentibus; corolla hypocaterimorpha profunde 4-lobata, tubo cylindraceo fere 1.5 cm. longo extus parce piloso, lobis oblongo-lanceolatis tubo subæquantibus; antheris ad faucem corollæ paulum exsertis; ovario biloculari, ovulis plurimis; fructu ignoto.

Specimen examined:

Mexico: State of San Luis Potosi, Minas de San Rafael, May, 1911, C. A. Purpus, 5208 (Mo. Bot. Gard. Herb.), TYPE.

Randia truncata Greenman & Thompson, sp. nov. Plate 26.

Frutex erectus 3–4 m. altus ramosus; caule ramisque tereti cortice griseo tectis juventate parce strigulosis mox glabratiss; spinis 0.5–1 cm. longis binis ad apices ramorum; foliis obovatis vel spathulatis 0.5–3 cm. longis 0.3–1.7 cm. latis ad apicem rotundatis obtusis vel submucronato-acutis integris utrinque glabris basi in petiolum marginatum plus minusve abrupte contractis; floribus sessilibus axillaribus terminalibus; calyce toto 1.5–2 mm. longo, limbo cupuliformi truncato; corolla hypocaterimorpha in sicco atrato, tubo cylindraceo 1–1.5 cm. longo extus glabro intus sparse piloso, lobis subovatis 4–5 mm. longis 3–4 mm. latis apice rotundato vel brevissime acuminato; antheris ad faucem corollae sessilibus semiinclusis; bacca immatura globulosa circiter 0.5 cm. diametro.

Specimens examined:

Mexico: State of Yucatan, vicinity of Izamal, coll. of 1895, Dr. Geo. F. Gaumer, 713, TYPE, and 506 (both in Mo. Bot. Gard. Herb.); road to Progresso north of Merida, 7 April, 1865, Schott, 262 (Mo. Bot. Gard. Herb.), distributed as "*R. aculeata*."

Co-types of the above species may be looked for in herbaria under *R. xalapensis* under which name Dr. Gaumer's material cited above was distributed. From this species, however, *R. truncata* differs in the more obovate outline and the less conspicuous veins of the leaf, the somewhat longer and more slender corolla-tube, and in the smaller truncate calyx.

Sclerocarpus elongatus (Greenm.) Greenman & Thompson, comb. nov.

S. Schiedeanus var. *elongatus* Greenm. Proc. Am. Acad. 32:309. 1897.

Herbaceus; caule tereti ramoso erecto vel adscendentis 1-1.5 m. alto striato sparse strigoso plus minusve purpurascens basi lignescens; foliis brevipetiolatis trinerviis inferioribus oppositis superioribus alternis anguste lanceolatis 2.5-13 cm. longis 0.3-1.5 cm. latis acuminatis acutis integris vel remote denticulatis basi in petiolum gradatim angustatis supra tuberculato-hispidis subtus paulo pallidioribus secundum nervos venasque hirsutis; inflorescentiis laxe paniculatis, pedunculis gracilibus 0.5-8 cm. longis strigosis; capitulis 6-8 mm. altis; involucris subcampanulatis circiter 5 mm. altis, squamis biseriatis oblongo-lanceolatis ovatis vel subobovatis extus strigoso-pubescentibus ciliatis leviter atratolineatis; flosculis liguliferis 5-8, ligulis oblongis 6-10 mm. longis flavis; floribus disci circiter 30; achæniis maturitate obliquis striatis glabris.

Specimens examined:

Mexico: State of Morelos, fields around Cuernavaca, altitude 1585 m., 31 October, 1896, C. G. Pringle, 6606 (Mo. Bot. Gard. Herb.), co-TYPE; valley, near Cuantla, altitude 1370 m., 28 October, 1900, C. G. Pringle, 9061 (Mo. Bot. Gard. Herb.). State of Vera Cruz, Ojapa, 30 June, 1910, C. R. Orcutt, 5156 (Mo. Bot. Gard. Herb.).

Venezuela: without definite locality, A. Fendler, 685 (Mo. Bot. Gard. Herb.).

A further study of co-type material of this species, supplemented by subsequent collections, and a careful comparison of it with *S. Schiedeanus* (DC.) Benth. & Hook. f., as represented by Schiede's number 225 preserved in the herbarium of the Missouri Botanical Garden and Pringle's number 8338 from the type locality, shows several important differences between the species and the plant referred to it as variety *elongatus*. The latter has narrowly lanceolate leaves, a much-branched stem, open inflorescence, and more numerous and smaller heads which altogether indicate that the plant in question should be regarded as of equal specific rank rather than a variety of *S. Schiedeanus*, hence it is here raised to specific rank and a somewhat amplified description is appended.

Flaveria longifolia Gray, Pl. Fendl. 88. 1849.

Var. **subtomentosa** Greenman & Thompson, var. nov.

Formæ typicæ habitu simili; caule plus minusve tomentoso; foliis lanceolato-attenuatis basi plerumque ampliatis amplexicaulibusque utrinque subtomentosis.

Specimens examined:

Mexico: State of San Luis Potosi, Minas de San Rafael, November, 1910, C. A. Purpus, 4776 (Mo. Bot. Gard. Herb.), TYPE; Rio Verde, 17 November, 1910, C. R. Orcutt, 5421 (Mo. Bot. Gard. Herb.); Rio Verde, 2–8 June, 1904, Dr. Edward Palmer, 26 (Mo. Bot. Gard. Herb.).

EXPLANATION OF PLATE

PLATE 24

Sisyrinchium angustissimum (Rob. & Greenm.) Greenm. & Thomp.

Mexico

From the type number, Pringle No. 4703, in the Herbarium of the Missouri Botanical Garden.



GREENMAN AND THOMPSON—DIAGNOSES OF FLOWERING PLANTS

EXPLANATION OF PLATE

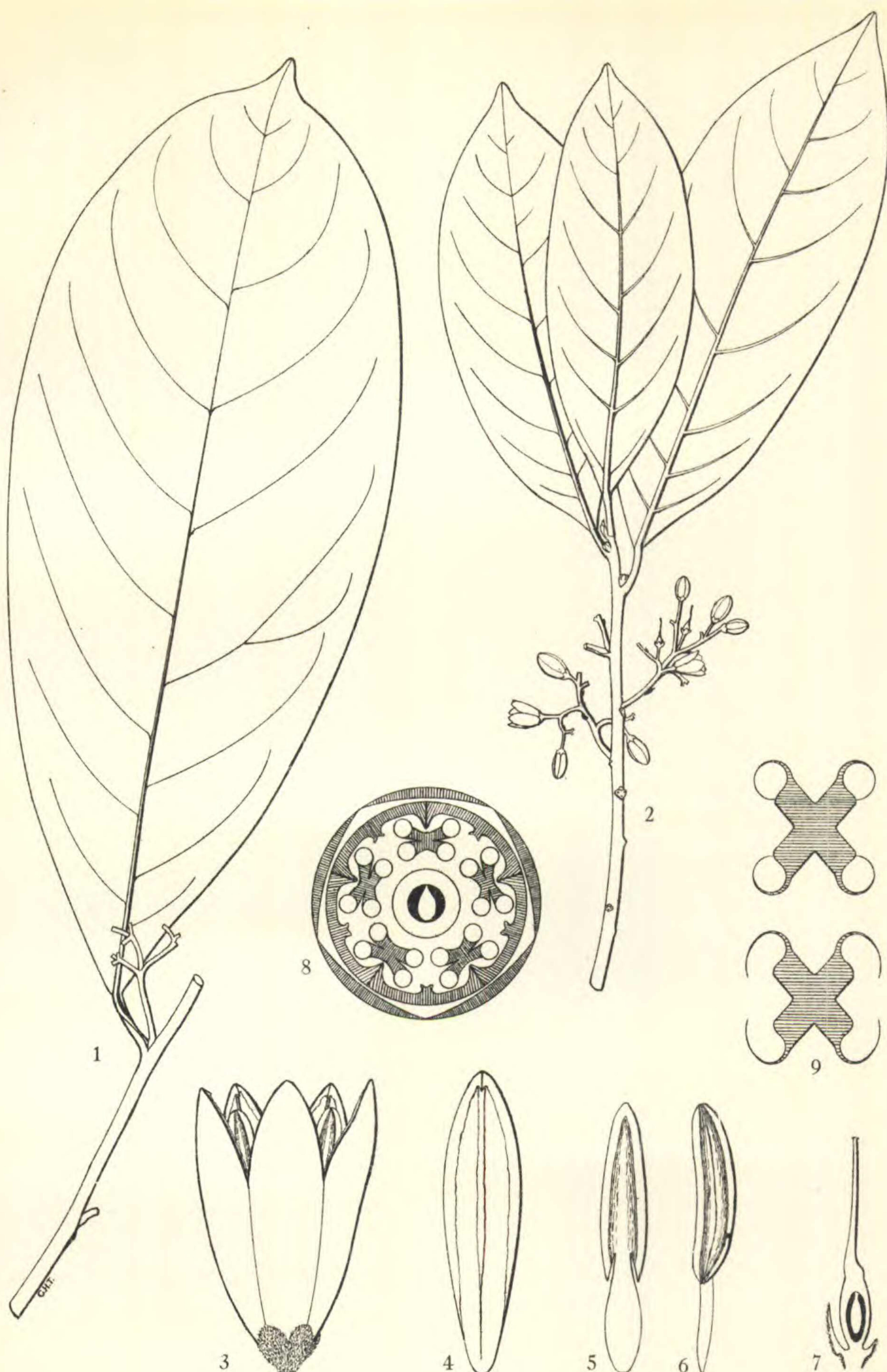
PLATE 25

Oecopetalum mexicanum Greenm. & Thomp.

Figs. 1 and 2, flowering branches; 3, flower; 4, inner face of petal; 5 and 6, front and side view of stamen; 7, longitudinal section of pistil; 8, diagrammatic cross-section of flower bud; 9, diagrammatic cross-section of anther before and after dehiscence.

Mexico

From the type specimen, Purpus No. 6159, in the Herbarium of the Missouri Botanical Garden.



GREENMAN AND THOMPSON—DIAGNOSES OF FLOWERING PLANTS

EXPLANATION OF PLATE

PLATE 26

Randia truncata Greenm. & Thomp.

Mexico

From the type specimen, Gaumer No. 713, in the Herbarium of the Missouri Botanical Garden.